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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/827,386 | 04/05/2001 | James Leppek | 51159CON2 (ISD-28) | 7780 |

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EXAMINER

SEAL, JAMES

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2135

DATE MAILED: 04/22/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,386

Applicant(s)

LEPPEK, JAMES

Examiner

James Seal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. This Action is in response to applicant's correspondence dated 09 February 2004.
2. Substitute Abstract has been entered.
3. Amended claims 1, 6, 8, and 10 have been entered.
4. Claims 1-11 are pending.

Claim Rejections - 35 USC § 112

5. With the amendments to claim 1 clarifying what is meant by encryption, the examiner withdraws his rejection to claims 1-5 under 35 USC § 112.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 6 part b the applicant recites sequentially passing data through a cascaded sequence. The examiner assumes that the word should be successively passing for the purpose of prior art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan US 5600726 A and further in view of Stinson, Cryptography Theory and Practice.

7. As per claim 1, the limitation of a method for controllably encrypting data to be transmitted over a communication link is disclosed by Morgan Column 19-15 and figures 3 and 4. Morgan discloses encryption in terms of a virtual rule base machine in which a succession of n rules (each which can represent a different encryption algorithm) is applied to input data 56 and yielding encrypted data 58. Morgan applies each of the rules successively until the last n rule is applied. Morgan is silent on multiple encryption.

8. Stinson teaches the use of product or multiple encryption as produced by successive encryption using different encryption algorithms as a means to increase the diffusion (as per Shannon top page 64 Stinson) and thereby increase the security of the encryption (e.g. substitution followed by transposition such as in DES). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combine the teaching to provide the flexibility of the virtual rule base machine of Morgan and the security provided by Stinson Claim 1 is rejected.

9. Claim 2 provides a decryption implementation of the encryption device/method taught in claim 1 and is rejected in view of the same prior art of record.

10. As per claim 3, the limitations of storing a plurality of respectively different data encryption operators (rules) is disclosed Figure 3, element 54 wherein the rules are

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stored while they are assembled, the limitation of retrieving first rule and applying, the second and so forth until the n rule has been applied to the data is disclosed Figure 3, elements 54, 52 and 50. Claim 3 is rejected.

11. Claim 4, discloses the decryption stage of the virtual n rule machine that is applies the inverse of the rules applied for encryption and is thus rejected by the same prior art of record. Claim 4 is rejected.

12. Claim 5, recites the storage, retrieving and assembling of the n decryption operators which correspond to the inverses of the encryption operators and applying the first then the second and so forth until the n rule is applied is disclosed by the Stinson/Morgan combination as the decryption half of a cryptographic system. Claim 5 is rejected.

13. As per claim 6, the limitation of providing a plurality of respectively different data encryption operators (as rules) is disclosed in the Morgan/Stinson combination see claim 1. The limitation of sequentially passing (successively passing ??) to produce multiplied-encrypted data stream would also be covered by the Morgan virtual n rule machine. Claim 6 is rejected.

14. As per claim 7, the limitation of passing the compound-encrypted data stream over a communication link and passing data stream through a sequence (successive ??) of multiple decryption operators corresponding to encryption operators is disclosed by the Morgan/Stinson combination. Claim 7 is rejected.

15. As per claim 8, the limitation of storing a plurality of different encryption operators in a database retrieving such operators from the database and assembling different

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encryption is disclosed by the Morgan/Stinson combination see Figure 3 and claim 1.

Claim 8 is rejected.

16. Claim 9 recite the decryptor corresponding to the encryptor disclosed in claim 8 and is rejected in view of the same prior art of record. Claim 9 rejected.

17. As per claim 10, the limitation of providing a plurality of respectively different data encryption operators and generating a sequence of such operators would be a function of an virtual n rule encryption engine in that the engine can select from a data bank of say n rules. The limitation of passing the through a sequence of data encryption operators so as to produce a compound-encryption output data stream (Stinson page 64). Claim 10 is rejected.

18. Claim 11 corresponds to the decryptor corresponding to the encryptor of claim 10 and is rejected in view of the same prior art of record. Claim 11 is rejected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Seal whose telephone number is 703 308 4562. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 703 305 4393. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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April 17, 2004